DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-024526
Date Inspected: 21-Jun-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1730
Location: Job Site

CWI Name:	See Below		**CWI Present:**	☑ Yes	☐ No
Inspected CWI report:	☐ Yes	☑ No ☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No ☐ N/A
Electrode to specification:	☑ Yes	☐ No ☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No ☐ N/A
Qualified Welders:	☑ Yes	☐ No ☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No ☐ N/A
Approved Drawings:	☑ Yes	☐ No ☐ N/A	**Approved WPS:**	☑ Yes	☐ No ☐ N/A
			Delayed / Cancelled:	☐ Yes	☑ No ☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girder & Tower

Summary of Items Observed:

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) personnel. The inspection was performed on the various field fit-up of weld joints and the multi-pass fillet welding. The welding was performed utilizing the Shielded Metal Arc Welding (SMAW) and the Flux Cored Arc Welding (FCAW).

A). East Tower Shaft/Splice Plates

The QAI also observed the installation, fit-up and tack welding of the splice plates located on the 114 meter elevation at the east corner of the East Tower Shaft identified as WN: 165 and 166. This task was performed by the fitter/welder Mike Jiminez ID-4671 utilizing the FCAW-G process as per the WPS ABF-WPS-D15-F2200-3 and F2200-2, Rev.0 which was also used by the QC inspector, Steve Jensen, to monitor the tack welding and verify the welding parameters. The fit-up and tack welding was not completed during this scheduled shift.

B). Lifting Lug Holes

The QAI observed the CJP welding of the lifting lug holes identified as WN: 9E-PP77-E3, W1& W3 and 10W-PP92-W3-W1 & W2. The welding was performed by Jorge Lopez ID-6149 Darcel Jackson ID-9967 accordingly, utilizing the WPS identified as ABF-WPS-D15-1050A-CU, Rev. 0 and 1110A, Rev. 1. The QAI also observed the QC inspector's perform the visual inspection and verify the welding parameters during the production welding. The inspections performed by Fred Von Hoff and John Pagliero appeared to comply with the contract specifications. The welding of these weld joints was not completed during this scheduled shift.

C). OBG Field Splice 11E/12E

The QAI observed the fillet welding of the fitting gear to the bottom plate to be utilized during the alignment process of the field splice identified as D1 and D2. The field fit-up and welding was performed by Rick Clayborn ID-2773 utilizing the SMAW process as per the WPS identified as ABF-WPS-D15-F1200A Rev. 1. The WPS was also used by the QC inspector William Sherwood as a reference to verify the DCEP welding parameters and were noted as follows: 128 amps. The QAI also observed the QC inspector verify the surface temperatures which appeared to comply with the contract documents.

D). OBG Field Splice 10E/11E

The QAI observed the Flux Cored Arc Welding (FCAW-G) of the weld joint identified as Weld Number (WN) 10E-11E-E1 and E2. The CJP welding was performed by the welder/operator James Zhen ID-6001 utilizing the WPS ABF-WPS-D15-3042A Rev. 1. The WPS was also used by the QC inspector Fred Von Hoff as a reference during the monitoring of the production welding and verifying the welding parameters which were observed as follows: 240 amps, 24.0 volts and a travel speed measured as 180 mm. The QC inspector also verified the minimum preheat temperature of 60 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius. The welding was performed in the overhead position (4G) with the work at approximate incline of 22 degrees. The CJP welding of the of this joint was not completed during this shift.

This QA Inspector also performed a daily review and update of the field document control tracking records regarding the Orthotropic Box Girders, Longitudinal and Transverse "A" Deck Stiffeners and Deck Access Holes.

QA Summary

The welding was performed in the flat and overhead positions utilizing the E7018-H4R low hydrogen and E71T-1 consumables. The 3.2 mm and 4.0 mm electrodes were stored in electrically heated, thermostatically controlled oven after removal from the sealed containers. The exposure limits of the electrodes appeared to comply with the minimum storage oven temperature of 120 degrees Celsius as per the contract documents. The WPS's were also utilized by the QC inspector's as a reference to monitor the welding operation, verify the welding parameters and verify the minimum preheat and the interpass temperatures. The welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter for the electrical welding parameters and Tempil Heat Indicators for verifying the preheat and interpass temperatures. At the time of the observation no issues were noted by the QAI.

The digital photograph on page 3 of this report illustrate some of the work observed during this scheduled shift.

WELDING INSPECTION REPORT

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Summary of Conversations:

There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of welding, inspection and N.D.E. testing personnel scheduled for this shift.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer